CRITICAL ELEMENTS OF A HIGH SCHOOL FIRE PREVENTION PROGRAM FOR THE CENTRAL COVENTRY FIRE DISTRICT TO USE AT THE COVENTRY HIGH SCHOOL

LEADING COMMUNITY RISK REDUCTION

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed: _____

Abstract

The problem was that the Central Coventry Fire District fire prevention officer lacks a high school fire prevention program to combat the high incidence of teenage fire-setters in the town of Coventry. The purpose of this research project was to identify the critical elements of a high school fire prevention program so that the Central Coventry Fire District fire prevention officer can institute a successful fire prevention program at the Coventry High School. This was a descriptive research project. The research questions were first, what national high school fire prevention program models are available? Second, what critical elements of fire prevention are utilized in the national high school fire prevention program models? Third, what high school fire prevention programs are other fire departments utilizing? Fourth, what critical elements of fire prevention are utilized in the high school fire prevention programs of other fire departments? Fifth, what critical program elements does the Central Coventry fire prevention officer identify as necessary to implement a high school fire prevention program at the Coventry High School?

The procedures involved a review of materials pertaining to high school fire prevention programs and fire prevention education. A convenience sample was used to gather information on the use of high school fire prevention programs in other fire departments. A survey was given to the Central Coventry Fire District fire prevention officer regarding program design.

The research project results identified national high school fire prevention models, as well as programs used by other fire departments, along with their critical design elements. The results identified critical elements of program success important to the Central Coventry fire prevention officer.

The recommendation of this research was that the Central Coventry Fire District conduct a risk assessment, utilize the risk assessment data and the critical elements identified in this research, then develop a high school fire prevention program. The community risk assessment should be completed on a regular basis in order to update the fire prevention program.

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Introduction

The problem is that the Central Coventry Fire District (CCFD) fire prevention officer lacks a high school fire prevention program to combat the high incidence of teenage fire-setters in the town of Coventry. The purpose of this research project is to identify the critical elements of a high school fire prevention program so that the CCFD fire prevention officer can institute a successful fire prevention program at the Coventry High School. This is a descriptive research project. The research questions are:

1. What national high school fire prevention program models are available?

2. What critical elements of fire prevention are utilized in the national high school fire prevention program models?

3. What high school fire prevention programs are other fire departments utilizing?

4. What critical elements of fire prevention are utilized in the high school fire prevention programs of other fire departments?

5. What critical program elements does the CCFD fire prevention officer identify as necessary to implement a high school fire prevention program at the Coventry High School?

Background and Significance

In the Executive Fire Officer Program Student Manual (Federal Emergency Management Agency [FEMA], 2003), for the Leading Community Risk Reduction class, the nation's fire problem is described in unit one. Specifically, the following problems are identified.

- Annually in the United States there are:
    - Over a million fires.
    - Nearly 4,000 deaths.
    - Approximately 22,000 injuries.
    - Over $10 billion of financial loss.

- Residential fires represented 21 percent of all fires and 73 percent of structure fires.

- 82 percent of fatalities occurred in the home; of those, 81 percent in single-family homes and duplexes. (FEMA, 2003, p. SM1-10)

The data presented above represents a very serious fire problem in our country. If we are to reduce the effects of fire, it takes responsible individuals in our communities to lead the fight to prevent the devastation of fire. High school students are our future. They are the future community leaders, future parents, future homeowners, future workforce, future business owners and future educators for their children. Therefore, it is only natural to empower them with the knowledge to lead the cause of fire prevention.

In the community of Coventry, Rhode Island, we have had our share of teenage firesetter incidents over the last five years. Most of these teenage firesetters were high school students. As mentioned in the previous paragraph, these teenage high school students are the future of our communities. This being the case, it is imperative for the Coventry community to implement a strong fire prevention program at the Coventry High School to control the current problem of teenage firesetters, but also to make a safer future in the Coventry community and neighboring communities, as these high school students move on to be responsible adults.

This Applied Research Project relates to the terminal objective for unit one, Getting Ready, the terminal objective for unit four, Intervention Strategies, and the terminal objective for unit five, Action Plan, of the Executive Fire Officer Program Student Manual (FEMA, 2003), for the Leading Community Risk Reduction class. This research project relates to the United States Fire Administration (USFA) operational objective *to reduce the loss of life from fire by 15%,* USFA operational objective of *2,500 communities will have a comprehensive multi-hazard risk*

reduction plan led by or including the local fire service, and USFA operational objective *to appropriately respond in a timely manner to emergent issues* (USFA Website, 2005).

Literature Review

This researcher has reviewed pertinent literature from various sources to identify the critical elements of a high school fire prevention program that the CCFD fire prevention officer may use to design and implement a fire prevention program for the Coventry High School. Four research questions need to be addressed through this literature review. First, what national high school fire prevention program models are available? Second, what critical elements of fire prevention are utilized in the national high school fire prevention program models? Third, what high school fire prevention programs are other fire departments utilizing? Fourth, what critical elements of fire prevention are utilized in the high school fire prevention programs of other fire departments?

Advocating shared responsibilities for improved fire protection. In the report from the USFA called *Advocating Shared Responsibilities for Improved Fire Protection* (USFA, 2002a), the report emphasized the need to implement a strategy for improved fire safety that includes *education*, *enforcement*, *engineering*, *evaluation*, *economic incentive*, and *empowerment*. The report (USFA, 2002a) also recommends a central network for sharing resources, in regards to research pertaining to child behavior and firesetting.

Fire and burn prevention. The National Fire Protection Association (NFPA) utilizes a program called *Risk Watch* to teach fire and burn prevention to children. The program consists of several educational components as well as several practical activities. Some of the important fire safety topics covered in this program includes the following (NFPA, 2005).

Develop a home fire escape plan; if you live in an apartment building, occupants need to be familiar with the building's evacuation plan; keep cooking areas clean and uncluttered; always keep a close eye on cooking food as it should never be left unattended; keep children and

pets away from cooking areas; turn pot handles so they can't be bumped; space heaters need to be placed at least three feet from walls, draperies, or other items that can burn; do not overload receptacle outlets; and cover receptacle outlets with plastic safety covers if there are small children in the home (NFPA, 2005, p. 1-3).

Fire department fire prevention and public education programs. The Renton Fire Department (RFD) in Washington State has identified fire prevention program elements for several age categories of school students (RFD, 2005). Specifically, they have a high school teen parent and parent development class that addresses the following.

Class for students who have children, are expecting, or want to prepare for the future. The program focuses on fire behavior, smoke detectors, home hazards, and fire survival skills, with emphasis on strategies for keeping babies and young children safe. (RFD, 2005, p. 1)

Firefighters to fire preventers – a change for the Waterbury fire department. In his Executive Fire Officer (EFO) research paper, Klauber (1999) discusses the critical components of a fire prevention education program.

According to the International City/County Management Association, a public fire safety education program has three major requirements:

1. It is developed to achieve specific goals and objectives through well-organized lesson plans delivered by well-trained personnel.

2. It must have a competent staff to deliver the program. The staff must be well-versed in educational methodology and fire safety. The staff must be adequately staffed to attain the department objectives.

3. The results of the program must be measurable. The use of data, post and pre testing data. (Klauber, 1999, p. 11-12)

Klauber (1999) goes on to say that "Preparing personnel to deliver programs is an essential component in the public fire safety program." (p. 14).

Fire safety in the home. The Payson Fire Department (Payson FD) of Payson, Arizona has developed a high school fire prevention program called *Fire Safety in the Home* (Payson FD, 2005). This program was designed to address students in the 9th and 10th grade.

The Payson FD fire safety program addresses what the average high school student can do to prevent home fires from starting. It explains what to do in the event of a fire; how to prevent loss of life in the home as a student and later as they become adults with a family of their own. Other topics include preventing and extinguishing cooking fires; fire risks related to candle fires, the proper placement of candles and not leaving candles unattended. Smoke detectors are discussed concerning proper placement and testing procedures. The same is discussed for carbon monoxide detectors along with signs and symptoms of carbon monoxide poisoning. Electrical fires are discussed along with proper placement of electrical cords. Space heaters are discussed and their proper use and placement. Portable fire extinguisher use is discussed and demonstrated. Finally, calling 9-1-1 is discussed and the importance of a home exit safety plan, emphasizing that once someone exits a residence, do not go back inside (Payson FD, 2005).

Greendale fire department. The Greendale Fire Department (GFD) of Wisconsin has identified fire prevention programs for various school age groups (GFD, 2005). Specifically the have concentrated on a high school seniors program that "is for high school seniors who are getting ready for college dorm life. It refreshes the student's memory on fire safety and shows how to get out alive of a fire would occur while in the college dorms." (GFD, 2005, p.4).

Juvenile firesetter intervention handbook. The *Juvenile Firesetter Intervention Handbook* (USFA, 2002b) defines youth at-risk regarding children and adolescent firesetting. The adolescents of little risk are those that have a functional family providing support and guidance.

They also experience adequate peer relationships. School performance and behavior are all within normal accepted standards. Interestingly, girls are less likely to be involved as a firesetter.

The handbook (USFA, 2002b) goes on to define the definite risk or troubled adolescent. Many of these individuals live in single-parent households, with an absent father. There is little discipline and inadequate supervision. One or more parents may have a psychiatric diagnosis. These children have difficulty establishing and maintaining peer relationships. Learning difficulties are common and many may experience attention deficit disorder or hyperactivity. Their school performance is typically below average.

The handbook (USFA, 2002b) defines the definite risk or delinquent adolescent as living in a single-parent household with an absent father, no formal supervision, with physical abuse or violent family interaction as a commonality. Alcoholism among one or more parent is common. The child may be involved in antisocial behavior. School performance is poor.

Finally, the handbook (USFA, 2002b) defines the extreme risk adolescent as a varied family background due to the individual's high likelihood of a mental disorder. Often times their mental impairment makes it impossible for them to live at home. They may actually live in residential treatment facilities or a hospital. Peer relationships are poor. School performance is usually severely impaired.

Juvenile firesetters – what you can do. FEMA's booklet *Juvenile Firesetters – What You Can Do* (FEMA, 2004), identifies fires set by children as: "A problem that needs the attention of parents, teachers, counselors, and community leaders, in cooperation with fire and law enforcement officers." (p. 2).

The booklet (FEMA, 2004) further goes on to describe what parents can do by:

Teach Your Child About Fire

- Fire is a tool we use to heat our homes or cook our food.

- It is not a toy.

- Fire is dangerous – it can kill.

- All fires – even small ones – can spread quickly.

- Even adults must follow special safety rules for fire. (FEMA, 2004, p. 4)

Set a Good Example

- Install and maintain smoke detectors and fire extinguishers.

- Plan and practice home fire escape drills.

- Regularly inspect your home for fire hazards.

- Always use "safety sense" when making or using fire.

- Point out to your children the safety rules you and others are following throughout

  the day. (FEMA, 2004, p. 5)

The booklet goes on to describe the role of teachers, counselors and community leaders

as those people who should:

Take Responsibility for Fire Safety

- Teach fire safety in pre-school through high school programs.

- Participate in training to learn about juvenile firesettters.

- Help to raise awareness in your community about juvenile firesetters.

- Know the resources in your community to help juvenile firesetters – or help

  develop a juvenile firesetters program. (FEMA, 2004, p. 6)

National community fire safety centre toolbox. The Office of the Deputy Prime Minister

(ODPM) of the United Kingdom has established the *National Community Fire Safety Centre

Toolbox* (ODPM, 2004) which is comprised of several fire safety campaigns and educational

materials. Their top 10 fire safety tips are:

- Fit a smoke alarm and check it regularly

- Make a fire action plan so that everyone in your house knows how to escape in the event of a fire

- Take care when cooking with hot oil and think about using thermostatically controlled deep fat fryers

- Never leave lit candles unattended

- Ensure cigarettes are stubbed out and disposed of carefully

- Never smoke in bed

- Keep matches and lighters away from children

- Keep clothing away from heating appliances

- Take care in the kitchen! Accidents whilst cooking account for 59% of fires in the home

- Take special care when you are tired or when you've been drinking. Half of all deaths in domestic fires happen between 10pm and 8am. (ODPM, "Protect Yourself & Your Home", 2004, p. 1)

The ODPM (2004) safety toolbox goes on to describe additional fire safety tips. Good habits include turning off and unplugging electrical appliances; checking your smoke alarms once a week; and, make an escape plan from the home.

Get into a routine before going to bed. This routine should include:

- Switch off and unplug electrical appliances

- Check to see that the oven and cooker are turned off

- Turn heaters off, and put a guard in front of fires

- Make sure any candles are fully extinguished and lights are turned off

- Make sure all cigarette buts are put out, wetting them to be sure, and throw them away into a bin outside the house

- Close interior doors – they slow down the spread of fire

- Check that the escape route is free of obstacles (ODPM, "Safety Essentials", 2004, p. 2)

Finally, the ODPM (2004) safety toolbox expresses the need to purchase fire-resistant upholstered furniture; keep cookers away from flammable objects; keep the toaster clean and away from curtains; keep the chimney clean; and, have a fire extinguisher or a fire blanket available in case of a fire emergency.

Phoenix fire department youth fire safety class (ages 13 through 17). The Phoenix Fire Department (PFD) has established an educational component for fire prevention presentations for several age categories, one of which is the 13 through 17 year old age bracket (PFD, 2003). The outline of the PFD fire safety class (PFD, 2003), for the 13 through 17 age bracket, as it applies to a target audience of firesetters, is as follows.

GOAL: Stop firesetting behavior, understand consequences of firesetting, and identify ways to make better choices.

LESSON PLAN

I.   Introduction

A. Instructor

1. Who am I? (Establish credibility)

2. Introduce staff/instructors

B. Students

1. Have them answer the following questions:

a. Why are you here?

b. What happened?

c. Reasons for firesetting?

C. Set ground rules for class

D. Explain the goals of the class

    1. Discuss the Arizona Arson and Fireworks Laws

    2. Define felony and misdemeanor

    3. Discuss the consequences of firesetting

    4. Discuss how the entire community is affected by firesetting

    5. Increase awareness about fire safety. (PFD, 2003, p. 27)

E. Discuss the Arizona Arson and Fireworks Laws

F. Discuss the consequences of firesetting (use poster)

    1. Personal injury to self and/or others

    2. Property damage

    3. Death to self and/or others

    4. Fines and restitution

    5. Incarceration

II.   Class Work

A. In class assignment

    1. Read two fire-related newspaper articles

    2. Discuss articles

III.   View "Urban Survival" Video (Phoenix Fire Department)

A. Discuss other services provided by the fire department

B. Draw a map of a neighborhood with a youth set fire

    1. Discuss how this fire affects other fire department services

    2. Response time

    3. Fire companies out of service

    4. Consequences

        a. Heart attack victim

        b. Response time can mean saving or not saving possessions

        c. Response time can mean life or death

IV.   Break: 10 Minutes (PFD, 2003, p. 28)

V.   View "Prime Time Live Florida" or Fire Power (NFPA)

    A. Discuss lessons learned from "Prime Time Live Florida" or Fire Power

        1. Stages of fire

           a. Time Frame

           b. Temperature

           c. How sleeping with bedroom doors closed can make a difference

    B. Explain importance of smoke alarms

        1. Does your family have one?

        2. Why do you need one?

        3. Explain the dangers of smoke.

        4. Placement and location – one on every level

        5. Maintenance and operation

           a. Test once a month

           b. Change the battery once a year

        6. Battery/electrical smoke alarms

           a. Pros/cons

           b. Have a battery operated smoke alarm as back-up

    C. Explain fire safety behaviors

        1. Stop, drop, cover your face, and roll

        2. Crawl low under smoke

        3. Cool a burn

D. Discuss the importance of a home escape plan

    1. Two ways out of every room

    2. Smoke alarm locations

    3. Have a meeting place

    4. Call 9-1-1 from a safe location such as a neighbors house

E. Draw home escape plan

    1. Hand out home escape plan

    2. Have students draw their own residence home escape plan

VI.   View one of the following: "Make the Right Choice" (PFD), "Rescue 9-1-1" (Rescue 9-1-1 Television Show), "Brian's Story" (Reel to Reel Video Production), or "In Their Own Words" (The Idea Bank), "In a Flash: The Consequences of Firesetting" (Syndistar, Inc.)

A. Discuss video viewed

B. Discuss how firesetting can affect not only the firesetter

C. What lessons have been learned?

D. There are bad choices, not bad people. Bad choices build bad reputations (PFD, 2003, p. 29)

Public education: it's not just child's play. In his article, Porth (2000, October) discusses public education programs and their effectiveness in the school system. He specifically points out that "Education is the best way to reach these people. But, clearly, meaningful, effective education is not occurring on a large scale." (Porth, 2000, October, p. 28).

He goes on further to identify the requirements for effective public education.

Educational programs require time, resources, and – most importantly – commitment at all levels of the organization. Everyone from the chief to the line firefighter and all points

in between must be willing to dedicate the time and resources necessary to make effective

education a reality for the fire service. (Porth, 2000, October, p. 28)

Public fire education planning – a five step process. Public Fire Education Planning – A Five Step Process (USFA, 2002c) is a manual published by the USFA that defines a five step

process to follow when designing public fire education. The five step process summary includes

first, conducting a community analysis; second, developing community partnerships; third,

creating an intervention strategy; fourth, implementing the strategy; and fifth, evaluating the

results. A more detailed explanation of each of the five steps follows.

The first step is a community risk analysis. This analysis is a process that identifies fire

and life safety problems and the demographic characteristics of those at risk in the community.

Five activities are included in the community risk analysis. First, identify data to be analyzed.

Second, develop a community risk profile. Third, write a problem statement. Fourth, prioritize

issues. Fifth, identify target areas and populations (USFA, 2002c).

The second step is to develop community partnerships. A community partner is a person,

group or organization that is willing to join forces with the fire department and address identified

community risk. These partnerships may be established with groups already interested in

addressing the same risk issue; members of the population who are affected by the risk; groups

that feel the financial impact of the risk; groups already providing services to the population

affected by the risk; community advocacy groups; and groups that can help deliver messages

such as the media (USFA, 2002c).

The third step is to create an intervention strategy. An intervention strategy is the

beginning of the detailed work necessary for the development of a successful fire or life safety

risk reduction program. This step is accomplished by developing a goal that has a broad

statement about the problem and identifies the condition that would like to be created. Next it

will be necessary to review the analysis of the selected risk. The risk should be fully understood.

Once this is complete, the target population should be identified along with any related target locations. Prevention interventions may now be identified for the stated risk. Resources must now be identified so that the prevention interventions may be implemented. Finally, an evaluation strategy should be developed so that the effectiveness of the program can be determined (USFA, 2002c).

The fourth step is to implement the strategy. Implementing the strategy puts the plan into action. This is done by first conducting a pilot test program and making any revisions that may be necessary. A pre-delivery checklist is put together to make sure the implementation is well coordinated and sequenced appropriately. As part of this step the program must be marketed. Marketing will allow elected officials, program sponsors, fund providers, the general public, the target audience, the fire department and others to know that the program works. Finally, it is necessary to fully implement the program and as it is in progress, its progress must be monitored along with periodic reports of its progress (USFA, 2002c).

The fifth and final step is the evaluation of the results. The reason to evaluate is to demonstrate that the program is reaching the target population, is performing its planned impact, and is resulting in reducing loss. This is accomplished by collecting data and comparing the data to the baseline data prior to program implementation. From this, interventions may be made with the appropriate modifications to the program. The results must now be analyzed again to prove that the modifications were effective (USFA, 2002c).

Solutions 2000. In *Solutions 2000* (USFA, 1999) report, a minimum set of criteria for education to children were established. They are:

- Support the delivery of comprehensive fire and life safety education in schools.

- Provide organizations that serve and interact with children and their caregivers with fire and life safety information and materials.

- Teach children how to react appropriately in the event of a fire.

- Teach children how to call the fire department in case of an emergency. Not every jurisdiction uses the 911 system.

- Teach children a fire escape plan from every room in the house; they should know at least two ways out of each room. These drills should be practiced often, including in the dark.

- Include the fire department in fire drills and pre-fire planning.

- Promote greater use of fire sprinkler systems, especially in schools, day care centers, and homes. (p. 10)

The art of public speaking. Johnson (2003, January) discusses the pointers of public speaking. It is interesting that he compares the fire safety promoter as one who is in the business of selling, and therefore, must speak from the audience's point of view so that what is said makes sense. Part of this concept is to motivate the audience.

Johnson (2003, January) suggests the following pointers in preparing a presentation.

1) Choose a topic that is timely and relevant.

2) Create a basic outline, including an opening statement, a body, and a conclusion.

3) Also consider a statement of facts, proof supporting your presentation, and a refutation of any contrary views.

4) The conclusion is the climax, the destination to which you hope to bring the audience.

 (Johnson, 2003, January, p. 104)

He (Johnson, 2003, January) also suggests that as you speak you should be confident about the subject, forceful with enthusiasm, positive about what action the audience should take, and definite by giving clear, specific illustrations.

As far as inspiring the audience and persuading them, Johnson (2003, January)

recommends the following five-step sequence.

1) Gain their attention.

2) Demonstrate a need.

3) Offer a solution to this need.

4) Describe what may happen if no action is taken.

5) Tell what positive action will result. (Johnson, 2003, January, p. 104)

The national juvenile firesetter/arson control and prevention program: trainer's guide.

The trainer's guide for *The National Juvenile Firesetter/Arson Control and Prevention Program*

(USFA, 1994) has an outline of effective preparation and delivery of fire prevention

presentations. The guidelines to utilize are as follows.

Step 1: Establish objectives for the presentation. The objectives should answer the

following questions: Why am I giving this presentation? What do I want to happen as a

result of my presentation? What are the expected results of my presentation? The

objectives should be so defined so that they are realistic in scope. They should be realistic

in terms of what you can reasonably expect to accomplish. They should reflect a realistic

view of the audience's knowledge and background. They should be realistic in view of

the audience's ability to act. (p. 26)

Step 2: Analyze your audience. Speak with others who have made presentations before

this audience. Review reports about your audience. Seek information directly or

indirectly from selected members of the audience or others associated with them.

Conduct a debriefing after your presentation to assess audience reaction. (p. 26)

Step 3: Prepare a preliminary plan for the presentation. A preliminary plan serves two

basic functions: It forces you to determine carefully the direction you plan to take and it

serves as a guide for support personnel, who may provide back-up data, prepare charts, or

assist in some way with the presentation. (p. 27)

Step 4: Select resource material. Proper selection and deciding how much to put in the

presentation can be guided by the following questions: What is the purpose of the

presentation? What should be covered? What amount of detail is necessary? What must

be said if the objectives are to be achieved? What is the best way to make your point (s)?

For each item, why is it needed? (p. 27)

Step 5: Organize the material for effective presentation. Stating the idea (Introduction).

Developing the idea (Body). Restating the idea (Conclusion). (p. 28)

The trainer's guide (USFA, 1994) also establishes some guidelines for selecting

appropriate visual aid materials. The presenter should consider the audibility and visibility of the

selected material. Accessibility and availability must also be considered so that the material will

be available when the presentation is given. The visual aid material must also be adaptable to fit

the presenter's presentation. Material selected should be of attention-capturing quality. Finally,

the material should support the presentation and be an aid. The material should only enhance

what the presenter is saying and not take the place of the presentation.

Summary of the literature. The objective of this research is to identify the critical

elements of a high school fire prevention program that the CCFD fire prevention officer may use

to design and implement a fire prevention program for the Coventry High School. The literature

review supported the objective by identifying several critical elements that need to be part of a

high school fire prevention program.

<div align="center">Procedures</div>

Research Methodology

The desired outcome of this research is to identify the critical elements of a high school

fire prevention program so that the CCFD fire prevention officer can institute a successful fire

prevention program at the Coventry High School. The research project utilized descriptive research methodology to identify the critical elements.

The on-line card catalog of the Learning Resource Center (LRC) at the National Fire Academy (NFA) was used to search materials pertaining to fire prevention, fire prevention programs in general, adolescent fire prevention programs, school fire prevention programs, and public education for the fire service. Further, the search engine www.Google.com was utilized also to search for materials pertaining to fire prevention and programs related to the research subject.

All periodical materials utilized in this research project were obtained from the LRC at the NFA campus.

All research information from online internet sources was obtained from computers located at the student computer lab at the NFA, and computers located at the Central Coventry fire station in Coventry, Rhode Island.

EFO papers were printed in their entirety from the online LRC database.

Books and reports printed by the USFA sand FEMA were picked up on the campus of the NFA from the USFA publications distribution center located on campus. Or, the USFA and FEMA materials were printed in their entirety from the USFA Website, which are equivalent in content to the published text distributed by USFA.

All printed reference materials utilized for this research project are listed in the references section of this research project. Each reference identifies the type of material and its origin such as a publisher, website, article, magazine, fire department literature or other organization that may have provided materials. By identifying the source of the reference material from the reference list, one can identify where to locate the material and the location to retrieve the material as identified in the first few paragraphs of this section.

Fire prevention materials received from individual fire departments were requested directly by this researcher using the request letter presented in Appendix B.

Survey

Two surveys were conducted for this research project.

First, a convenience sample was used to gather information on the availability of fire prevention education programs for high school students, utilized by other fire departments. The survey was conducted in August of 2004 at the NFA. The survey was given to students in the *Executive Development* class, students in the *Hazardous Materials Operating Site Practices* class, students in the *Leading Community Risk Reduction* class, and students in the *Executive Analysis of Fire Service Operations in Emergency Management* class. The actual survey as distributed is shown in Appendix A. The survey asked if the fire department has a fire prevention program for high school students; if the fire department has any other risk reduction education programs for high school students; and if the fire department has any of the requested information, would it be available for review along with the contact information to get a copy.

Second, a survey was used to gather information from the CCFD fire prevention officer. The survey was given to the CCFD fire prevention officer, completed by that officer, and returned to this researcher. The actual survey sheet given to the CCFD fire prevention officer is shown in Appendix C. The survey sheet was designed to identify the fire prevention topics that the fire prevention officer feels would be appropriate for the Coventry High School students; identify if the fire prevention officer would split the students for a fire prevention presentation by grades 9, 10, 11, & 12, lump grades together as a whole, or segregate by a specific combination of grades; the teaching/presentation techniques for a high school student audience; and any critical tasks or elements of a high school fire prevention program that the fire prevention officer felt must be addressed. Finally, it was asked if the fire prevention officer had any other comments or suggestions for the design of a high school fire prevention program.

Analysis of the Survey

All of the results of the sample survey given out in August 2004 at the NFA were collected and separated based upon the availability of a high school fire prevention program or not. Those fire departments that reported they had a high school fire prevention program were sent a letter requesting a copy of the program. A copy of the actual letter sent requesting a copy of their high school fire prevention program is shown in Appendix B.

The survey given to the CCFD fire prevention officer was completed and submitted back to this researcher for inclusion with the results of this research project.

Limitations and Assumptions

The convenience sample from the students attending the NFA in August of 2004 represents a limited cross section of the fire departments across the country. However, the fire departments represented were appropriately spread out so that they represented several regions of the United States.

In the case of both surveys, it is assumed that all respondents answered honestly.

Definition of Terms

Education: The purpose of prevention education is to raise public awareness, provide information and knowledge, and ultimately produced desired low-risk behavior. (FEMA, 2003)

Engineering: The purpose of engineering is to enhance public safety and reduce the probability of injury by designing safeguards into the products we use. (FEMA, 2003)

Enforcement: The definition of *enforcement* is "to obtain compliance by force of compulsion." (FEMA, 2003)

Economic Incentives: Economic incentives are used as incentives or deterrents to personal or corporate behavior. A goal is to change behavior and behavioral risk factors. Economic incentives may also influence the development of the physical environment. (FEMA, 2003)

Empowerment: Teach basic emergency skills to the community population so that they can be a direct part of risk reduction. (USFA, 2002)

Evaluation: Measure the effectiveness of education, engineering, enforcement and economic incentives. (USFA, 2002)

Fire Education: Providing information (facts) about fire risk and fire prevention. (USFA, 2002b)

Fire Prevention: The methods that an organization employs including inspection and code enforcement, public fire safety education, arson prevention programs, and fire investigation (Klauber, 1999)

Risk Reduction: Reducing community hazards and the vulnerability to the community from hazards. (FEMA, 2003)

<div align="center">Results</div>

Question 1: What national high school fire prevention program models are available?

The literature review revealed that there are several fire prevention models available to implement an effective fire prevention program, but there are very few fire prevention program models specifically designed for high school students.

Specific findings through the literature review included:

In the report from the USFA called *Advocating Shared Responsibilities for Improved Fire Protection* (USFA, 2002), the report emphasized the need to implement a strategy for improved fire safety.

In his EFO research paper, Klauber (1999) discusses the critical components of a fire prevention education program.

The *Juvenile Firesetter Intervention Handbook* (USFA, 2002a) defines youth at-risk regarding children and adolescent firesetting.

FEMA's booklet *Juvenile Firesetters – What You Can Do* (FEMA, 2004), identifies fires set by children as "A problem that needs the attention of parents, teachers, counselors, and community leaders, in cooperation with fire and law enforcement officers." (p. 2).

The NFPA utilizes a program called *Risk Watch* to teach fire and burn prevention to children. The program consists of several educational components as well as several practical activities (NFPA, 2005).

The ODPM has established the *National Community Fire Safety Centre Toolbox* (ODPM, 2004) which is comprised of several fire safety campaigns and educational materials.

In his article, Porth (2000, October) discusses public education programs and their effectiveness in the school system. He specifically points out that "Education is the best way to reach these people. But, clearly, meaningful, effective education is not occurring on a large scale." (Porth, 2000, October, p. 28).

Public Fire Education Planning – A Five Step Process (USFA, 2002b) is a manual published by the USFA that defines a five step process to follow when designing public fire education. The five step process summary includes first, conducting a community analysis; second, developing community partnerships; third, creating an intervention strategy; fourth, implementing the strategy; and fifth, evaluating the results.

In the *Solutions 2000* (USFA, 1999) report, a minimum set of criteria for education to children were established.

Johnson (2003, January) discusses the pointers of public speaking. It is interesting that he compares the fire safety promoter as one who is in the business of selling, and therefore, must speak from the audience's point of view so that what is said makes sense. Part of this concept is to motivate the audience.

The trainer's guide for *The National Juvenile Firesetter/Arson Control and Prevention Program* (USFA, 1994) has an outline of effective preparation and delivery of fire prevention presentations.

Question 2: What critical elements of fire prevention are utilized in the national high school fire prevention program models?

The literature review revealed that there are critical elements that make fire prevention programs successful.

Specific findings through the literature review included:

In the report from the USFA called *Advocating Shared Responsibilities for Improved Fire Protection* (USFA, 2002), the report emphasized the need for improved fire safety that includes the use of *education*, *enforcement*, *engineering*, *evaluation*, *economic incentive*, and *empowerment*. The report (USFA, 2002) also recommends a central network for sharing resources, in regards to research pertaining to child behavior and firesetting.

The NFPA *Risk Watch* program includes the following important fire safety topics (NFPA, 2005).

Develop a home fire escape plan; if you live in an apartment building, occupants need to be familiar with the building's evacuation plan; keep cooking areas clean and uncluttered; always keep a close eye on cooking food as it should never be left unattended; keep children and pets away from cooking areas; turn pot handles so they can't be bumped; space heaters need to be placed at least three feet from walls, draperies, or other items that can burn; do not overload receptacle outlets; and cover receptacle outlets with plastic safety covers if there are small children in the home (NFPA, 2005, p. 1-3).

In his EFO research paper, Klauber (1999) identifies critical components of a fire prevention education program as follows.

1. It is developed to achieve specific goals and objectives through well-organized lesson plans delivered by well-trained personnel.

2. It must have a competent staff to deliver the program. The staff must be well-versed in educational methodology and fire safety. The staff must be adequately staffed to attain the department objectives.

3. The results of the program must be measurable. The use of data, post and pre testing data. (Klauber, 1999, p. 11-12)

Klauber (1999) goes on to say that "Preparing personnel to deliver programs is an essential component in the public fire safety program." (p. 14).

The *Juvenile Firesetter Intervention Handbook* (USFA, 2002a) defines youth at-risk regarding children and adolescent firesetting. The adolescents of little risk are those that have a functional family providing support and guidance. They also experience adequate peer relationships. School performance and behavior are all within normal accepted standards. Interestingly, girls are less likely to be involved as a firesetter.

The handbook (USFA, 2002a) goes on to define the definite risk or troubled adolescent. Many of these individuals live in single-parent households, with an absent father. There is little discipline and inadequate supervision. One or more parents may have a psychiatric diagnosis. These children have difficulty establishing and maintaining peer relationships. Learning difficulties are common and many may experience attention deficit disorder or hyperactivity. Their school performance is typically below average.

The handbook (USFA, 2002a) defines the definite risk or delinquent adolescent as living in a single-parent household with an absent father, no formal supervision, with physical abuse or violent family interaction as a commonality. Alcoholism among one or more parent is common. The child may be involved in antisocial behavior. School performance is poor.

Finally, the handbook (USFA, 2002a) defines the extreme risk adolescent as a varied family background due to the individual's high likelihood of a mental disorder. Often times their mental impairment makes it impossible for them to live at home. They may actually live in residential treatment facilities or a hospital. Peer relationships are poor. School performance is usually severely impaired.

FEMA's booklet *Juvenile Firesetters – What You Can Do* (FEMA, 2004), describes what parents can do by:

Teach Your Child About Fire

- Fire is a tool we use to heat our homes or cook our food.

- It is not a toy.

- Fire is dangerous – it can kill.

- All fires – even small ones – can spread quickly.

- Even adults must follow special safety rules for fire. (FEMA, 2004, p. 4)

Set a Good Example

- Install and maintain smoke detectors and fire extinguishers.

- Plan and practice home fire escape drills.

- Regularly inspect your home for fire hazards.

- Always use "safety sense" when making or using fire.

- Point out to your children the safety rules you and others are following throughout the day. (FEMA, 2004, p. 5)

The booklet goes on to describe the role of teachers, counselors and community leaders as those people who should:

Take Responsibility for Fire Safety

- Teach fire safety in pre-school through high school programs.

- Participate in training to learn about juvenile firesettters.

- Help to raise awareness in your community about juvenile firesetters.

- Know the resources in your community to help juvenile firesetters – or help develop a juvenile firesetters program. (FEMA, 2004, p. 6)

The ODPM (2004) has identified their top 10 fire safety tips as:

- Fit a smoke alarm and check it regularly

- Make a fire action plan so that everyone in your house knows how to escape in the event of a fire

- Take care when cooking with hot oil and think about using thermostatically controlled deep fat fryers

- Never leave lit candles unattended

- Ensure cigarettes are stubbed out and disposed of carefully

- Never smoke in bed

- Keep matches and lighters away from children

- Keep clothing away from heating appliances

- Take care in the kitchen! Accidents whilst cooking account for 59% of fires in the home

- Take special care when you are tired or when you've been drinking. Half of all deaths in domestic fires happen between 10pm and 8am. (ODPM, "Protect Yourself & Your Home", 2004, p. 1)

The ODPM (2004) safety toolbox goes on to describe additional fire safety tips. Good habits include turning off and unplugging electrical appliances; checking your smoke alarms once a week; and, make an escape plan from the home.

Get into a routine before going to bed. This routine should include:

- Switch off and unplug electrical appliances

- Check to see that the oven and cooker are turned off

- Turn heaters off, and put a guard in front of fires

- Make sure any candles are fully extinguished and lights are turned off

- Make sure all cigarette buts are put out, wetting them to be sure, and throw them away into a bin outside the house

- Close interior doors – they slow down the spread of fire

- Check that the escape route is free of obstacles (ODPM, "Safety Essentials", 2004, p. 2)

Finally, the ODPM (2004) safety toolbox expresses the need to purchase fire-resistant upholstered furniture; keep cookers away from flammable objects; keep the toaster clean and away from curtains; keep the chimney clean; and, have a fire extinguisher or a fire blanket available in case of a fire emergency.

In his article, Porth (2000, October) discusses effective public education programs. Educational programs require time, resources, and – most importantly – commitment at all levels of the organization. Everyone from the chief to the line firefighter and all points in between must be willing to dedicate the time and resources necessary to make effective education a reality for the fire service. (Porth, 2000, October, p. 28)

Public Fire Education Planning – A Five Step Process (USFA, 2002b) defines a five step process to follow when designing public fire education.

The first step is a community risk analysis. This analysis is a process that identifies fire and life safety problems and the demographic characteristics of those at risk in the community. Five activities are included in the community risk analysis. First, identify data to be analyzed.

Second, develop a community risk profile. Third, write a problem statement. Fourth, prioritize issues. Fifth, identify target areas and populations (USFA, 2002b).

The second step is to develop community partnerships. A community partner is a person, group or organization that is willing to join forces with the fire department and address identified community risk. These partnerships may be established with groups already interested in addressing the same risk issue; members of the population who are affected by the risk; groups that feel the financial impact of the risk; groups already providing services to the population affected by the risk; community advocacy groups; and groups that can help deliver messages such as the media (USFA, 2002b).

The third step is to create an intervention strategy. An intervention strategy is the beginning of the detailed work necessary for the development of a successful fire or life safety risk reduction program. This step is accomplished by developing a goal that has a broad statement about the problem and identifies the condition that would like to be created. Next it will be necessary to review the analysis of the selected risk. The risk should be fully understood. Once this is complete, the target population should be identified along with any related target locations. Prevention interventions may now be identified for the stated risk. Resources must now be identified so that the prevention interventions may be implemented. Finally, an evaluation strategy should be developed so that the effectiveness of the program can be determined (USFA, 2002b).

The fourth step is to implement the strategy. Implementing the strategy puts the plan into action. This is done by first conducting a pilot test program and making any revisions that may be necessary. A pre-delivery checklist is put together to make sure the implementation is well coordinated and sequenced appropriately. As part of this step the program must be marketed. Marketing will allow elected officials, program sponsors, fund providers, the general public, the target audience, the fire department and others to know that the program works. Finally, it is

necessary to fully implement the program and as it is in progress, its progress must be monitored

along with periodic reports of its progress (USFA, 2002b).

The fifth and final step is the evaluation of the results. The reason to evaluate is to

demonstrate that the program is reaching the target population, is performing its planned impact,

and is resulting in reducing loss. This is accomplished by collecting data and comparing the data

to the baseline data prior to program implementation. From this, interventions may be made with

the appropriate modifications to the program. The results must now be analyzed again to prove

that the modifications were effective (USFA, 2002b).

In *Solutions 2000* (USFA, 1999), the following recommendations are made.

- Support the delivery of comprehensive fire and life safety education in schools.

- Provide organizations that serve and interact with children and their caregivers with fire and life safety information and materials.

- Teach children how to react appropriately in the event of a fire.

- Teach children how to call the fire department in case of an emergency. Not every jurisdiction uses the 911 system.

- Teach children a fire escape plan from every room in the house; they should know at least two ways out of each room. These drills should be practiced often, including in the dark.

- Include the fire department in fire drills and pre-fire planning.

- Promote greater use of fire sprinkler systems, especially in schools, day care centers, and homes. (p. 10)

Johnson (2003, January) suggests the following pointers in preparing a presentation.

1) Choose a topic that is timely and relevant.

2) Create a basic outline, including an opening statement, a body, and a conclusion.

3) Also consider a statement of facts, proof supporting your presentation, and a refutation of any contrary views.

4) The conclusion is the climax, the destination to which you hope to bring the audience.

(Johnson, 2003, January, p. 104)

He (Johnson, 2003, January) also suggests that as you speak you should be confident about the subject, forceful with enthusiasm, positive about what action the audience should take, and definite by giving clear, specific illustrations.

As far as inspiring the audience and persuading them, Johnson (2003, January) recommends the following five-step sequence.

1) Gain their attention.

2) Demonstrate a need.

3) Offer a solution to this need.

4) Describe what may happen if no action is taken.

5) Tell what positive action will result. (Johnson, 2003, January, p. 104)

The trainer's guide for *The National Juvenile Firesetter/Arson Control and Prevention Program* (USFA, 1994) utilizes the following guidelines.

Step 1: Establish objectives for the presentation. The objectives should answer the following questions: Why am I giving this presentation? What do I want to happen as a result of my presentation? What are the expected results of my presentation? The objectives should be so defined so that they are realistic in scope. They should be realistic in terms of what you can reasonably expect to accomplish. They should reflect a realistic view of the audience's knowledge and background. They should be realistic in view of the audience's ability to act. (p. 26)

Step 2: Analyze your audience. Speak with others who have made presentations before this audience. Review reports about your audience. Seek information directly or

indirectly from selected members of the audience or others associated with them.

Conduct a debriefing after your presentation to assess audience reaction. (p. 26)

Step 3: Prepare a preliminary plan for the presentation. A preliminary plan serves two

basic functions: It forces you to determine carefully the direction you plan to take and it

serves as a guide4 for support personnel, who may provide back-up data, prepare charts,

or assist in some way with the presentation. (p. 27)

Step 4: Select resource material. Proper selection and deciding how much to put in the

presentation can be guided by the following questions: What is the purpose of the

presentation? What should be covered? What amount of detail is necessary? What must

be said if the objectives are to be achieved? What is the best way to make your point (s)?

For each item, why is it needed? (p. 27)

Step 5: Organize the material for effective presentation. Stating the idea (Introduction).

Developing the idea (Body). Restating the idea (Conclusion). (p. 28)

The trainer's guide (USFA, 1994) also establishes some guidelines for selecting

appropriate visual aid materials. The presenter should consider the audibility and visibility of the

selected material. Accessibility and availability must also be considered so that the material will

be available when the presentation is given. The visual aid material must also be adaptable to fit

the presenter's presentation. Material selected should be of attention-capturing quality. Finally,

the material should support the presentation and be an aid. The material should only enhance

what the presenter is saying and not take the place of the presentation.

Question 3: What high school fire prevention programs are other fire departments utilizing?

The literature review revealed high school fire prevention programs being utilized by fire

departments. Each of the programs identified were unique in their presentation. However, many

of the basic objectives of each program were very similar.

Specific findings through the literature review included:

The RFD has identified fire prevention program elements for several age categories of school students (RFD, 2005). Specifically, they have a high school teen parent and parent development class.

The Payson FD has developed a high school fire prevention program called *Fire Safety in the Home* (Payson FD, 2005). This program was designed to address students in the 9th and 10th grade.

The GFD has identified fire prevention programs for various school age groups (GFD, 2005).

The PFD has established an educational component for fire prevention presentations for several age categories, one of which is the 13 through 17 year old age bracket (PFD, 2003).

The survey conducted at the NFA in August of 2004 resulted in 70 respondents. Out of the 70 respondents, 10 indicated that their fire department conducted high school fire prevention programs. Each of those 10 departments was contacted for a copy of their program and only one actually forwarded a copy to this researcher. Out of the 70 respondents, 30 indicated that their fire department conducted other risk reduction programs at their local high school. Examples of these other programs included safe baby sitting, career day, prom night awareness, drinking while driving, other alcohol related accidents, first-aid and injury prevention.

Question 4: What critical elements of fire prevention are utilized in the high school fire prevention programs of other fire departments?

The literature review revealed that there are critical elements that make the fire prevention programs of the identified fire departments successful upon delivery. Again, it was evident that regardless of the fire department, many of the critical elements of these high school fire prevention programs were very similar.

The literature review revealed that the high school fire prevention programs utilized by the fire departments all incorporate critical elements in order to be effective.

Specific findings through the literature review included:

The RFD (RFD, 2005) has a high school teen parent and parent development class that addresses the following.

Class for students who have children, are expecting, or want to prepare for the future. The program focuses on fire behavior, smoke detectors, home hazards, and fire survival skills, with emphasis on strategies for keeping babies and young children safe. (RFD, 2005, p. 1)

The Payson FD fire safety program addresses what the average high school student can do to prevent home fires from starting. It explains what to do in the event of a fire; how to prevent loss of life in the home as a student and later as they become adults with a family of their own. Other topics include preventing and extinguishing cooking fires; fire risks related to candle fires, the proper placement of candles and not leaving candles unattended. Smoke detectors are discussed concerning proper placement and testing procedures. The same is discussed for carbon monoxide detectors along with signs and symptoms of carbon monoxide poisoning. Electrical fires are discussed along with proper placement of electrical cords. Space heaters are discussed and their proper use and placement. Portable fire extinguisher use is discussed and demonstrated. Finally, calling 9-1-1 is discussed and the importance of a home exit safety plan, emphasizing that once someone exits a residence, do not go back inside (Payson FD, 2005).

The GFD have concentrated on a high school seniors program that "is for high school seniors who are getting ready for college dorm life. It refreshes the student's memory on fire safety and shows how to get out alive of a fire would occur while in the college dorms." (GFD, 2005, p.4).

The outline of the PFD fire safety class (PFD, 2003), for the 13 through 17 age bracket, as it applies to a target audience of firesetters, is as follows.

GOAL: Stop firesetting behavior, understand consequences of firesetting, and identify ways to make better choices.

LESSON PLAN

I. Introduction

    A. Instructor

        1. Who am I? (Establish credibility)

        2. Introduce staff/instructors

    B. Students

        1. Have them answer the following questions:

            a. Why are you here?

            b. What happened?

            c. Reasons for firesetting?

    C. Set ground rules for class

    D. Explain the goals of the class

        1. Discuss the Arizona Arson and Fireworks Laws

        2. Define felony and misdemeanor

        3. Discuss the consequences of firesetting

        4. Discuss how the entire community is affected by firesetting

        5. Increase awareness about fire safety. (PFD, 2003, p. 27)

    E. Discuss the Arizona Arson and Fireworks Laws

    F. Discuss the consequences of firesetting (use poster)

        1. Personal injury to self and/or others

        2. Property damage

        3. Death to self and/or others

        4. Fines and restitution

       5. Incarceration

II.   Class Work

    A. In class assignment

       1. Read two fire-related newspaper articles

       2. Discuss articles

III.   View "Urban Survival" Video (Phoenix Fire Department)

    A. Discuss other services provided by the fire department

    B. Draw a map of a neighborhood with a youth set fire

       1. Discuss how this fire affects other fire department services

       2. Response time

       3. Fire companies out of service

       4. Consequences

          a. Heart attack victim

          b. Response time can mean saving or not saving possessions

          c. Response time can mean life or death

IV.   Break: 10 Minutes (PFD, 2003, p. 28)

VI.   View "Prime Time Live Florida" or Fire Power (NFPA)

    A. Discuss lessons learned from "Prime Time Live Florida" or Fire Power

       1. Stages of fire

          a. Time Frame

          b. Temperature

          c. How sleeping with bedroom doors closed can make a difference

    B. Explain importance of smoke alarms

       1. Does your family have one?

       2. Why do you need one?

3. Explain the dangers of smoke.

4. Placement and location – one on every level

5. Maintenance and operation

    a. Test once a month

    b. Change the battery once a year

6. Battery/electrical smoke alarms

    a. Pros/cons

    b. Have a battery operated smoke alarm as back-up

C. Explain fire safety behaviors

1. Stop, drop, cover your face, and roll

2. Crawl low under smoke

3. Cool a burn

D. Discuss the importance of a home escape plan

1. Two ways out of every room

2. Smoke alarm locations

3. Have a meeting place

4. Call 9-1-1 from a safe location such as a neighbors house

E. Draw home escape plan

1. Hand out home escape plan

2. Have students draw their own residence home escape plan

VI.   View one of the following: "Make the Right Choice" (PFD), "Rescue 9-1-1" (Rescue 9-1-1 Television Show), "Brian's Story" (Reel to Reel Video Production), or "In Their Own Words" (The Idea Bank), "In a Flash: The Consequences of Firesetting" (Syndistar, Inc.)

A. Discuss video viewed

B. Discuss how firesetting can affect not only the firesetter

C. What lessons have been learned?

D. There are bad choices, not bad people. Bad choices build bad reputations

(PFD, 2003, p. 29)

Question 5: What critical program elements does the CCFD fire prevention officer identify as necessary to implement a high school fire prevention program at the Coventry High School?

The survey completed by the CCFD fire prevention officer provided the results for this question.

The first request to the fire prevention officer was to list the fire prevention topics that he feels would be appropriate for the Coventry High School students.

The fire prevention officer identified fire behavior, smoking, fireworks safety, cooking safety, safe candle use, home escape plans and babysitter fire safety.

The second request to the fire prevention officer was to identify if he would split the students for a fire prevention presentation by grades 9, 10, 11, & 12; lump grades together as a whole; or segregate by a specific combination of grades.

The fire prevention officer did not identify any pros or cons to segregation. However, he did suggest that he may modify the curriculum for 11th and 12th graders because they may soon become parents themselves.

The third request to the fire prevention officer was what teaching/presentation techniques would he suggest for a high school student audience?

The fire prevention officer identified the use of PowerPoint presentations with handouts; implementation of fire behavior into the science/chemistry curriculum; would use several case studies of actual fire incidents; and he suggested the use of as much "hands-on" work for the students as is practical.

The fourth request to the fire prevention officer was to identify any critical tasks or elements of a high school fire prevention program that he feels must be addressed?

The fire prevention officer identified the following critical tasks. First was teaching fire behavior. He explained that not understanding how fire works and what fire is capable of doing is where juvenile firesetters run into trouble. Additionally he identified smoking issues and home escape plans as critical.

The fifth request to the fire prevention officer was for any other comments or suggestions he may have for the design of a high school fire prevention program.

The fire prevention officer identified the need to provide instruction to teachers as well as students on the importance of fire drills and escape plans. He has personally witnessed a breakdown in student accountability during high school fire drills, as it seems complacency has taken the place of the true importance of preparing for fire safety.

Discussion

This research project was conducted to identify the critical elements of a high school fire prevention program so that the CCFD fire prevention officer can institute a successful fire prevention program at the Coventry High School. The results of this research project did identify critical elements that can be used to design such a high school fire prevention program. As this researcher completed this project, it became evident that the emphasis on high school fire prevention is lacking and that most school fire prevention programs tend to target a younger age bracket. It is not that high school fire prevention programs do not exist, but rather a situation where they represent a minority compared to other school fire prevention programs. In his article, Porth (2000, October) discusses public education programs and their effectiveness in the school system. He specifically points out that "Education is the best way to reach these people. But, clearly, meaningful, effective education is not occurring on a large scale." (Porth, 2000, October, p. 28).

It also became clear through the research that fire prevention education for our children is the responsibility of the entire community. FEMA's booklet *Juvenile Firesetters – What You Can Do* (FEMA, 2004), identifies fires set by children as "A problem that needs the attention of parents, teachers, counselors, and community leaders, in cooperation with fire and law enforcement officers." (p. 2). It was also clear that our community fire departments need to become more committed to prevention and education. Porth (2000) commented in his writings.

> He goes on further to identify the requirements for effective public education. Educational programs require time, resources, and – most importantly – commitment at all levels of the organization. Everyone from the chief to the line firefighter and all points in between must be willing to dedicate the time and resources necessary to make effective education a reality for the fire service. (Porth, 2000, October, p. 28)

> The same concern for this fire prevention education was made clear by Klauber (1999) who emphasizes that "Preparing personnel to deliver programs is an essential component in the public fire safety program." (p. 14).

Maybe the real issue here is planning. Communities may not have put enough planning time into good, solid fire prevention education programs, be it in the high school setting, elementary school setting, or the community in general regardless of the age category. However, there are tools available to help us in the fire service and in our communities to perform such planning. *Public Fire Education Planning – A Five Step Process* (USFA, 2002c) is a manual published by the USFA that defines a five step process to follow when designing public fire education. The five step process summary includes first, conducting a community analysis; second, developing community partnerships; third, creating an intervention strategy; fourth, implementing the strategy; and fifth, evaluating the results. Following this five step planning process can be a valuable tool in targeting the community's fire prevention programs to the true areas of need.

This idea of planning for fire prevention was emphasized in several of the literature sources used for this research project. In the report from the USFA called *Advocating Shared Responsibilities for Improved Fire Protection* (USFA, 2002a), the report emphasized the need to implement a strategy for improved fire safety that includes *education*, *enforcement*, *engineering*, *evaluation*, *economic incentive*, and *empowerment*. In the *Solutions 2000* (USFA, 1999) report, a minimum set of criteria for education to children were established. They are:

- Support the delivery of comprehensive fire and life safety education in schools.

- Provide organizations that serve and interact with children and their caregivers with fire and life safety information and materials.

- Teach children how to react appropriately in the event of a fire.

- Teach children how to call the fire department in case of an emergency. Not every jurisdiction uses the 911 system.

- Teach children a fire escape plan from every room in the house; they should know at least two ways out of each room. These drills should be practiced often, including in the dark.

- Include the fire department in fire drills and pre-fire planning.

- Promote greater use of fire sprinkler systems, especially in schools, day care centers, and homes. (p. 10)

All of these as mentioned are planning tools that may be utilized to design appropriate fire prevention education programs. The rest is up to the community partners to design these programs and implement them. We must remember that community partners include the fire service, police, school system, industry, retail business, community groups, parent-teacher organizations, health industry, state and local government. However, the lead to pull together such education has to be the fire service considering the background that the fire service brings

to the table in regards to knowledge of fire safety. But, when we do this, the fire service needs to "buy-in" to public fire education from the chief of the department to the newly hired probationary firefighter.

It is also fair to say here that parents have a significant influence over their children. With that being said, it is very important that parents play a lead role in fire safety education by mentoring their children. FEMA and the USFA remind us to teach our children about fire:

- Fire is a tool we use to heat our homes or cook our food.

- It is not a toy.

- Fire is dangerous – it can kill.

- All fires – even small ones – can spread quickly.

- Even adults must follow special safety rules for fire. (FEMA, 2004, p. 4)

Set a Good Example

- Install and maintain smoke detectors and fire extinguishers.

- Plan and practice home fire escape drills.

- Regularly inspect your home for fire hazards.

- Always use "safety sense" when making or using fire.

- Point out to your children the safety rules you and others are following throughout the day. (FEMA, 2004, p. 5)

Ultimately, as this research project continued, actual high school fire prevention programs were identified. Some of the high school fire prevention components came from nationally accepted program guidelines, to several fire departments that had designed their own high school fire prevention program. One example of a good high school fire prevention program is the Payson FD fire safety program, which addresses what the average high school student can do to prevent home fires from starting. It explains what to do in the event of a fire; how to

prevent loss of life in the home as a student and later as they become adults with a family of their own. Other topics include preventing and extinguishing cooking fires; fire risks related to candle fires, the proper placement of candles and not leaving candles unattended. Smoke detectors are discussed concerning proper placement and testing procedures. The same is discussed for carbon monoxide detectors along with signs and symptoms of carbon monoxide poisoning. Electrical fires are discussed along with proper placement of electrical cords. Space heaters are discussed and their proper use and placement. Portable fire extinguisher use is discussed and demonstrated. Finally, calling 9-1-1 is discussed and the importance of a home exit safety plan, emphasizing that once someone exits a residence, do not go back inside (Payson FD, 2005).

The RFD in Washington State is another good example of a fire department that has identified the need to educate high school students and has identified a fire prevention program for the high school age bracket. Specifically, they have a high school teen parent and parent development class that addresses the following.

> Class for students who have children, are expecting, or want to prepare for the future. The program focuses on fire behavior, smoke detectors, home hazards, and fire survival skills, with emphasis on strategies for keeping babies and young children safe. (RFD, 2005, p. 1)

The GFD of Wisconsin took a unique approach to educating their high school seniors. Specifically they have concentrated on a high school seniors program that "is for high school seniors who are getting ready for college dorm life. It refreshes the student's memory on fire safety and shows how to get out alive of a fire would occur while in the college dorms." (GFD, 2005, p.4).

Based upon the above, this researcher believes that the CCFD can be successful in implementing a high school fire prevention program. The study results have indicated that there are critical elements to designing a high school fire prevention program that should be utilized in

order for the outcome of the program to be successful. As this researcher reviewed the literature, it became obvious that such a program also requires a strategy of implementation. This strategy of implementation must be developed by design. An appropriate community risk analysis must be conducted. Once complete, the appropriate data from the risk analysis must be utilized in the design of the high school fire prevention program. This may seem like much work to the implementation of a fire prevention program. However without it, the desired outcome of the program may not be achieved since there will be no measurement tool available to compare the program's outcome. The risk analysis will identify the real needs and allow one to go back and measure the reduction in risk after program implementation.

The high school fire prevention program design should include components that will address the risk analysis. The data collected presented several elements of fire prevention that may be put into the design of the program. Those elements of fire prevention should concentrate on the issues identified through the risk analysis.

Interestingly enough, many critical elements of program design are not specific to just the high school age bracket. Many fire safety tips that we learn from an early age, on to an older adult, are always valid. For example, the ODPM of the United Kingdom has established the *National Community Fire Safety Centre Toolbox* (ODPM, 2004) which is comprised of several fire safety campaigns and educational materials. Their top 10 fire safety tips are:

- Fit a smoke alarm and check it regularly
- Make a fire action plan so that everyone in your house knows how to escape in the event of a fire
- Take care when cooking with hot oil and think about using thermostatically controlled deep fat fryers
- Never leave lit candles unattended

- Ensure cigarettes are stubbed out and disposed of carefully

- Never smoke in bed

- Keep matches and lighters away from children

- Keep clothing away from heating appliances

- Take care in the kitchen! Accidents whilst cooking account for 59% of fires in the home

- Take special care when you are tired or when you've been drinking. Half of all deaths in domestic fires happen between 10pm and 8am. (ODPM, "Protect Yourself & Your Home", 2004, p. 1)

The ODPM (2004) safety toolbox goes on to describe additional fire safety tips. Good habits include turning off and unplugging electrical appliances; checking your smoke alarms once a week; and, make an escape plan from the home.

Get into a routine before going to bed. This routine should include:

- Switch off and unplug electrical appliances

- Check to see that the oven and cooker are turned off

- Turn heaters off, and put a guard in front of fires

- Make sure any candles are fully extinguished and lights are turned off

- Make sure all cigarette buts are put out, wetting them to be sure, and throw them away into a bin outside the house

- Close interior doors – they slow down the spread of fire

- Check that the escape route is free of obstacles (ODPM, "Safety Essentials", 2004, p. 2)

Finally, the ODPM (2004) safety toolbox expresses the need to purchase fire-resistant upholstered furniture; keep cookers away from flammable objects; keep the toaster clean and

away from curtains; keep the chimney clean; and, have a fire extinguisher or a fire blanket available in case of a fire emergency.

If you examine the fire safety topics presented by the ODPM, they are all life long fire safety tips. In fact, they are fire safety tips that will save a life, so a person may have a long life. The real job of the high school fire prevention program is to reinforce what we have already learned; add to that knowledge by providing more thorough education; update that knowledge so that it is current to today's standards; and prepare our high school seniors as mature adults to carry the message of fire safety with them throughout the rest of their life.

What is the implication of this research project on the CCFD? Based upon the results of the research, enough information is available for the CCFD fire prevention officer to design a high school fire prevention program that will be effective at the Coventry High School. Although our community does have an apparent problem with adolescent firesetters, from the research, we can perform a risk assessment to further identify that problem and other community fire risks. With those risks identified, appropriate critical elements identified through this research may be applied to the CCFD program. It is also understood that it will be critical to follow-up after the program delivery with a measurement tool to determine the success, as well as modifications to the high school fire prevention program that may be needed based upon the evaluation.

The critical elements of a high school fire prevention program as outlined in Appendix D of this research paper will be forwarded to the CCFD fire prevention officer. With that information, the fire prevention officer may develop a high school fire prevention program for the Coventry High School, something which we presently do not have. This will have a positive impact on the organization by establishing our commitment to community fire prevention education in the high school forum. In addition, it will have a positive impact on our community by better educating our high school students who will become the future leaders of our

community as well as other communities around the country, wherever our high school students may end up raising their own families.

Recommendations

The problem, as stated previously, was that the CCFD fire prevention officer lacks a high school fire prevention program to combat the high incidence of teenage firesetters in the town of Coventry. The purpose of this applied research project is to identify the critical elements of a high school fire prevention program so that the CCFD fire prevention officer can institute a successful fire prevention program at the Coventry High School.

The research project results identified some national high school fire prevention models as well as the critical elements of design that are used in these models.

The research project results also identified high school fire prevention models being utilized by other fire departments as well as the critical elements of design that are used by these agencies to make their programs successful.

In addition, the research project results identified critical elements of success for a high school fire prevention program that were important to the CCFD fire prevention officer.

As a result of this research project, the researcher has compiled a list of critical elements for the design of a high school fire prevention program. This list of critical elements is shown in Appendix D. The CCFD fire prevention officer may use this list of critical elements to design a high school fire prevention program for the Coventry High School.

This researcher first recommends that the CCFD conduct a risk assessment for the town of Coventry to determine the real fire safety risks that threaten our community.

Next, the risk assessment data must be forwarded to the CCFD fire prevention officer for review, particularly to identify those risks directly relevant to the high school population.

The CCFD fire prevention officer will receive a copy of the data compiled in Appendix D for review and inclusion in a high school fire prevention program.

This researcher recommends that the information provided be used in its entirety by the CCFD fire prevention officer to develop a high school fire prevention program for the Coventry High School.

This researcher also recommends that the community risk assessment be completed on a regular basis and that the data retrieved by the risk assessment be used to update the high school fire prevention program.

It is further recommended that the CCFD consider a more in-depth survey of fire departments in our region to determine the type of high school fire prevention programs being utilized. The results of such a survey may identify more critical elements of a high school fire prevention program. Such results may be added to the data identified in Appendix D and the Coventry High School fire prevention program may be appropriately updated using the new information.

For future readers, the list of critical elements of a high school fire prevention program as outlined in Appendix D could be utilized by other fire service organizations in their high school fire prevention programs. However, to validate the use of such information, this researcher recommends that any interested fire service conduct a community risk assessment prior to using the information in Appendix D. Based upon the results of the community risk assessment, appropriate Appendix D data may be applied to the respective high school fire prevention program.

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Appendix A

CENTRAL COVENTRY FIRE DISTRICT
2847 Flat River Road
Coventry, R.I. 02816

SURVEY

Dear Survey Respondent,

This survey is being distributed to you for an applied research project that I am completing for my studies in the National Fire Academy's Executive Fire Officer Program.

Thank you for your assistance with this project.

Sincerely,

Robert W. Seltzer

Leading Community Risk Reduction – Survey – August, 2004

Department/Organization Name:
_____

City/Town: _____   State: _____

Question #1: Does your department/organization conduct fire prevention education for your high school students?
                    Yes: _____   No: _____

Question #2: If you answered Yes for Question #1, what grades attend your high school?
          Check all that apply. 8th. _____ 9th. _____ 10th. _____ 11th. _____ 12th. _____

Question #3: Does your department/organization conduct other risk reduction education programs for your high school students, such as injury prevention, drug-free schools, prom night awareness, alcohol abuse, etc.?
                    Yes: _____   No: _____

Question #4: If you answered Yes for Question #3, please list the title(s) of your high school risk reduction program(s) that you conduct at your high school?

_____

_____

_____

_____

Question #5: Would it be possible to receive a copy of your high school fire prevention education program as well as a copy of your other high school risk reduction education program(s) if I were to send an official request for such information?

Yes: _____   No: _____

Question #6: If you answered Yes for Question #5, please provide contact information.

Contact Name (optional): _____

Street Address: _____

Zip Code: _____   e-mail address (optional): _____

Please return completed survey to your NFA class instructor or room J-102. Thanks.

Appendix B

CENTRAL COVENTRY FIRE DISTRICT
2847 Flat River Road
Coventry, R.I. 02816

Dear Fire Service Professional,

My name is Robert Seltzer and I am working on an applied research project in Fire Prevention for High School Students. This I am completing for my studies in the Executive Fire Officer Program at the National Fire Academy.

During a survey I conducted at the National Fire Academy in August of 2004, a member of your department indicated that you were the contact person who would be able to provide some information regarding your department's fire prevention education for high school students.

I would appreciate your help in providing me with an outline, standard operating procedure, manual, or any other form of documentation that you may have put together for your high school fire prevention program.

Documentation may be forwarded to me in one of the following ways.

1) Mailing address: Central Coventry Fire District
   2847 Flat River Road
   Coventry, R.I. 02816

2) E-mail: car71@cox.net

3) Fax: 401-392-9001

For all that forward information to me, I will forward a copy of my final research project when it is completed. Please provide mailing instructions for me with your materials.

Thank you very much for your cooperation.

Sincerely,

Robert W. Seltzer
Chief

Appendix C

CENTRAL COVENTRY FIRE DISTRICT
2847 Flat River Road
Coventry, R.I. 02816

SURVEY

Dear Fire Prevention Officer,

This survey is being distributed to you for an applied research project that I am completing for my studies in the National Fire Academy's Executive Fire Officer Program.

Thank you for your assistance with this project.

Sincerely,

Chief Seltzer

Critical Elements of a High School Fire Prevention Program for the Coventry High School

The problem is that the fire prevention officer lacks a high school fire prevention program to combat the high incidence of teenage fire-setters in the town of Coventry.

1) Please list the fire prevention topics that you feel would be appropriate for the Coventry High School students.

   _____

   _____

   _____

   _____

   _____

2) Please identify if you would split the students for a fire prevention presentation by grades 9, 10, 11, & 12; lump grades together as a whole; or segregate by a specific combination of grades. Please explain:

   _____

   _____

   _____

   _____

3) What teaching/presentation techniques would you suggest for a high school student audience? Please explain each:

_____

_____

_____

_____

_____

4) Are there any critical tasks or elements of a high school fire prevention program that you feel must be addressed? Please explain:

_____

_____

_____

_____

_____

5) Any other comments or suggestions you may have for the design of a high school fire prevention program. Please explain:

_____

_____

_____

_____

_____

_____

_____

_____

Appendix D

CRITICAL ELEMENTS OF A HIGH SCHOOL FIRE PREVENTION PROGRAM FOR THE CENTRAL COVENTRY FIRE DISTRICT TO USE AT THE COVENTRY HIGH SCHOOL

BY: Robert W. Seltzer, Chief

February 2005

CRITICAL ELEMENTS: General

1. Overall strategy for improved fire safety must include *education*, *enforcement*, *engineering*, *evaluation*, *economic incentive*, and *empowerment*.

2. The results of the program must be measurable.

3. Preparing personnel to deliver programs is an essential component in the public fire safety program.

4. Consider implementation of fire behavior into the science/chemistry curriculum; use case studies of actual fire incidents; and utilize as much "hands-on" work for the students as is practical.

5. Provide instruction to teachers as well as students on the importance of fire drills and escape plans since even school fire drills may be treated with complacency.

CRITICAL ELEMENTS: Content of the Presentation

1. Important topics should include fire behavior, smoking, fireworks safety, cooking safety, safe candle use, home escape plans and babysitter fire safety.

2. Well-organized lesson plans delivered by well-trained personnel.

3. It may be necessary to modify the curriculum for 11th and 12th graders because they may soon become parents themselves.

4. Teach fire behavior. Not understanding how fire works and what fire is capable of doing is where juvenile firesetters run into trouble.

5. Teach to students:

    -   Fire is a tool we use to heat our homes or cook our food.

    -   Fire is dangerous – it can kill.

    -   All fires – even small ones – can spread quickly.

    -   Even adults must follow special safety rules for fire.

6. Fire Safety Tips:

- Fit a smoke alarm and check it regularly

- Make a fire action plan so that everyone in your house knows how to escape in the event of a fire

- Take care when cooking with hot oil and think about using thermostatically controlled deep fat fryers

- Never leave lit candles unattended

- Ensure cigarettes are stubbed out and disposed of carefully

- Never smoke in bed

- Keep matches and lighters away from children

- Keep clothing away from heating appliances

- Take care in the kitchen! Accidents while cooking account for 59% of fires in the home

- Take special care when you are tired or when you've been drinking.

7. Get into a routine before going to bed. This routine should include:

- Switch off and unplug electrical appliances

- Check to see that the oven and cooker are turned off

- Turn heaters off, and put a guard in front of fires

- Make sure any candles are fully extinguished and lights are turned off

- Make sure all cigarette buts are put out, wetting them to be sure, and throw them away into a bin outside the house

- Close interior doors – they slow down the spread of fire

- Check that the escape route is free of obstacles

8. Good habits include turning off and unplugging electrical appliances.

9. People need to purchase fire-resistant upholstered furniture; keep cookers away from flammable objects; keep the toaster clean and away from curtains; keep the chimney clean; and, have a fire extinguisher or a fire blanket available in case of a fire emergency.

10. Explain importance of smoke alarms

- Does your family have one?

- Why do you need one?

- Explain the dangers of smoke.

- Placement and location – one on every level

- Maintenance and operation

  - Test once a month

  - Change the battery once a year

11. Explain fire safety behaviors

- Stop, drop, cover your face, and roll

- Crawl low under smoke

- Cool a burn

12. Discuss the importance of a home escape plan

- Two ways out of every room

- Have a meeting place

- Call 9-1-1 from a safe location such as a neighbor's house

13. Explain what to do in the event of a fire; how to prevent loss of life in the home as a student and later as they become adults with a family of their own.

14. Discuss preventing and extinguishing cooking fires; fire risks related to candle fires, the proper placement of candles and not leaving candles unattended.

15. Discuss the need for carbon monoxide detectors along with signs and symptoms of carbon monoxide poisoning.

16. Discuss electrical fires along with proper placement of electrical cords.

17. Discuss space heaters and their proper use and placement.

18. Discuss portable fire extinguisher use as well as a demonstration.

19. Discuss the importance of calling 9-1-1 and the importance of a home exit safety plan, emphasizing that once someone exits a residence, do not go back inside.

20. Develop a home fire escape plan; if you live in an apartment building, occupants need to be familiar with the building's evacuation plan; keep cooking areas clean and uncluttered; always keep a close eye on cooking food as it should never be left unattended; keep children and pets away from cooking areas; turn pot handles so they can't be bumped; space heaters need to be placed at least three feet from walls, draperies, or other items that can burn; do not overload receptacle outlets; and cover receptacle outlets with plastic safety covers if there are small children in the home.

CRITICAL ELEMENTS: Considerations for the Presenter

1. The staff must be well-versed in educational methodology and fire safety.

2. Inspiring the audience and persuading them by the following five-step sequence.

   a) Gain their attention.

   b) Demonstrate a need.

   c) Offer a solution to this need.

   d) Describe what may happen if no action is taken.

   e) Tell what positive action will result.

3. Motivate the audience.

   a) Choose a topic that is timely and relevant.

   b) Create a basic outline, including an opening statement, a body, and a conclusion.

c) Consider a statement of facts, proof supporting your presentation, and a refutation of any contrary views.

d) The conclusion is the climax, the destination to which you hope to bring the audience.

e) As you speak you should be confident about the subject, forceful with enthusiasm, positive about what action the audience should take, and definite by giving clear, specific illustrations.

4. Considerations for the presenter in developing the presentation.

Step 1: Establish objectives for the presentation. The objectives should answer the following questions: Why am I giving this presentation? What do I want to happen as a result of my presentation? What are the expected results of my presentation? The objectives should be so defined so that they are realistic in scope. They should be realistic in terms of what you can reasonably expect to accomplish. They should reflect a realistic view of the audience's knowledge and background. They should be realistic in view of the audience's ability to act.

Step 2: Analyze your audience. Speak with others who have made presentations before this audience. Review reports about your audience. Seek information directly or indirectly from selected members of the audience or others associated with them. Conduct a debriefing after your presentation to assess audience reaction.

Step 3: Prepare a preliminary plan for the presentation. A preliminary plan serves two basic functions: It forces you to determine carefully the direction you plan to take and it serves as a guide4 for support personnel, who may provide back-up data, prepare charts, or assist in some way with the presentation.

Step 4: Select resource material. Proper selection and deciding how much to put in the presentation can be guided by the following questions: What is the purpose of the presentation? What should be covered? What amount of detail is necessary? What must

be said if the objectives are to be achieved? What is the best way to make your point (s)?

For each item, why is it needed?

Step 5: Organize the material for effective presentation. State the idea (Introduction).

Develop the idea (Body). Restate the idea (Conclusion).

* The presenter should consider the audibility and visibility of the selected material.

Accessibility and availability must also be considered so that the material will be available

when the presentation is given. The visual aid material must also be adaptable to fit the

presenter's presentation. Material selected should be of attention-capturing quality. Finally,

the material should support the presentation and be an aid. The material should only enhance

what the presenter is saying and not take the place of the presentation.

CRITICAL ELEMENTS: Program geared toward Juvenile Firesetters

1. Set ground rules for class

2. Explain the goals of the class

3. Discuss the consequences of firesetting

4. Discuss how the entire community is affected by firesetting

5. Increase awareness about fire safety.

6. Discuss the consequences of firesetting

    a. Personal injury to self and/or others

    b. Property damage

    c. Death to self and/or others

    d. Fines and restitution

    e. Incarceration

7. Draw a map of a neighborhood with a youth set fire

    a. Discuss how this fire affects other fire department services

    b. Response time

      c. Fire companies out of service

      d. Consequences

- Heart attack victim

- Response time can mean saving or not saving possessions

- Response time can mean life or death

8. Presenters should recognize the socioeconomic backgrounds of firesetters:

The adolescents of little risk are those that have a functional family providing support and guidance. They also experience adequate peer relationships. School performance and behavior are all within normal accepted standards. Interestingly, girls are less likely to be involved as a firesetter.

The definite risk or troubled adolescent. Many of these individuals live in single-parent households, with an absent father. There is little discipline and inadequate supervision. One or more parents may have a psychiatric diagnosis. These children have difficulty establishing and maintaining peer relationships. Learning difficulties are common and many may experience attention deficit disorder or hyperactivity. Their school performance is typically below average. defines the definite risk or delinquent adolescent as living in a single-parent household with an absent father, no formal supervision, with physical abuse or violent family interaction as a commonality. Alcoholism among one or more parent is common. The child may be involved in antisocial behavior. School performance is poor.

The extreme risk adolescent has a varied family background due to the individual's high likelihood of a mental disorder. Often times their mental impairment makes it impossible for them to live at home. They may actually live in residential treatment facilities or a hospital. Peer relationships are poor. School performance is usually severely impaired.

<u>CRITICAL ELEMENTS: Beyond the High School Environment</u>

1. Take Responsibility for Fire Safety

   • Teach fire safety in pre-school through high school programs.

   • Participate in training to learn about juvenile firesettters.

   • Help to raise awareness in your community about juvenile firesetters.

   • Know the resources in your community to help juvenile firesetters – or help develop a juvenile firesetters program.

2. Educational programs require time, resources, and – most importantly – commitment at all levels of the organization. Everyone from the chief to the line firefighter and all points in between must be willing to dedicate the time and resources necessary to make effective education a reality for the fire service.

3. Identifying the fire safety problem in your community.

The first step is a community risk analysis. This analysis is a process that identifies fire and life safety problems and the demographic characteristics of those at risk in the community. Five activities are included in the community risk analysis. First, identify data to be analyzed. Second, develop a community risk profile. Third, write a problem statement. Fourth, prioritize issues. Fifth, identify target areas and populations.

The second step is to develop community partnerships. A community partner is a person, group or organization that is willing to join forces with the fire department and address identified community risk. These partnerships may be established with groups already interested in addressing the same risk issue; members of the population who are affected by the risk; groups that feel the financial impact of the risk; groups already providing services to the population affected by the risk; community advocacy groups; and groups that can help deliver messages such as the media.

The third step is to create an intervention strategy. An intervention strategy is the beginning of the detailed work necessary for the development of a successful fire or life safety risk reduction program. This step is accomplished by developing a goal that has a broad statement about the problem and identifies the condition that would like to be created. Next it will be necessary to review the analysis of the selected risk. The risk should be fully understood. Once this is complete, the target population should be identified along with any related target locations. Prevention interventions may now be identified for the stated risk. Resources must now be identified so that the prevention interventions may be implemented. Finally, an evaluation strategy should be developed so that the effectiveness of the program can be determined.

The fourth step is to implement the strategy. Implementing the strategy puts the plan into action. This is done by first conducting a pilot test program and making any revisions that may be necessary. A pre-delivery checklist is put together to make sure the implementation is well coordinated and sequenced appropriately. As part of this step the program must be marketed. Marketing will allow elected officials, program sponsors, fund providers, the general public, the target audience, the fire department and others to know that the program works. Finally, it is necessary to fully implement the program and as it is in progress, its progress must be monitored along with periodic reports of its progress.

The fifth and final step is the evaluation of the results. The reason to evaluate is to demonstrate that the program is reaching the target population, is performing its planned impact, and is resulting in reducing loss. This is accomplished by collecting data and comparing the data to the baseline data prior to program implementation. From this, interventions may be made with the appropriate modifications to the program. The results must now be analyzed again to prove that the modifications were effective.

4. Community wide activities:

- Support the delivery of comprehensive fire and life safety education in all schools.

- Provide organizations that serve and interact with children and their caregivers with fire and life safety information and materials.

- Teach all children how to react appropriately in the event of a fire.

- Teach all children how to call the fire department in case of an emergency. Not every jurisdiction uses the 911 system.

- Teach all children a fire escape plan from every room in the house; they should know at least two ways out of each room. These drills should be practiced often, including in the dark.

- Include the fire department in fire drills and pre-fire planning.

- Promote greater use of fire sprinkler systems, especially in schools, day care centers, and homes.